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DECEMBER 2.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-six persons present.

DECEMBER 9.

The President, Dr. RUSCHENBERGER, in the chair.

Fifty persons present.

A paper entitled "Description of a Fœtal Walrus," by Harrison Allen, M.D., was presented for publication.

Complete Connection of the Fissura Centralis (Fiss. of Rolando) with the Fossa Sylvii.—Dr. A. J. PARKER stated that Dr. Chas. K. Mills had lately observed, while examining the brain of a white person, that the central fissure ran completely into the fossa Sylvii without any bridging convolution being found present. The fissura centralis, as it exists in the higher primates, begins at the upper border of the hemisphere, and extends obliquely downwards and forwards, terminating above the Sylvian, so that we find an arched convolution surrounding its lower end and completely separating it from the Sylvian fissure. In 1866, however, Turner reported a case (Edinburgh Medical Journal, 1866) in which he found this fissure joining the Sylvian. This appears to be, up to that time, the only recorded case. Ecker, in speaking of this observation (Cerebral Convolution of Man, trans. by R. T. Edes, M.D., 1873), says: "I have not yet seen a complete opening of the central furrow into the fissura Sylvii of which Turner speaks;" and Bischoff goes so far as to affirm (Die Grosshirnwindungen des Menschen, etc., Abhand. der k. bair. Akad. der Wissenschaften München, 1868), that the central fissure bends with its upper end gradually backwards, but it remains closed at its upper and lower end, and *never* opens into the fossa Sylvii. In the Proc. of Academy of Nat. Sciences Phila., 1878, Dr. Parker has reported a case similar to those observed by Prof. Turner and Dr. Mills, a photograph of which was exhibited; so that we have now at least three well-authenticated cases in which this relation of the two fissures referred to above existed. Bischoff objects to the observation of Turner on account of its disagreement with certain views in regard to the morphology of the cerebral convolutions which he advances in the paper referred to above. He considers that "a large number of the convolutions of the great hemisphere are arranged around the ends of the primary furrows in more or less simple or

complicated arches." The primary fissures, according to him, are the anterior and posterior branches of the fossa Sylvii; the fissura centralis or fissure of Rolando, fissura perpendicularis interna or parieto-occipital fissure, fissura parallela or superior temporal fissure, and the fissura hippocampi. This latter fissure of Bischoff corresponds to Gratiolet's fissure des hippocampes, and includes both the fissura hippocampi and the fissura calcarina of other writers. The type is expressed, according to Bischoff, by these fissures, and the development of the convolutions consists merely of arched windings surrounding the ends of these primary furrows, and the further development of the convolutions arises in fact through the stronger development, bending backwards and forwards, rising and sinking of the lobules around the above-named furrows. Through this process there arise secondary folds and fissures, side convolutions and connections and separations of individual convolutions. The same, says Bischoff, may be different on the two sides of the same brain and in different individuals, the ground forms being, therefore, more or less hidden, but we can recognize them easily in all brains. He hopes, however, that it will soon be possible to explain and make intelligible these individual modifications. There are, however, convolutions which, as Bischoff remarks, do not appear to be in unison with this type, such as the first and second frontal and the convolutions of the occipital and temporal lobes. For these Bischoff says that he can find no particular plan on which they may be based. They arise one after the other, and become more and more complex, as it appears, from purely mechanical necessities of the surface increasing in a definite space. In this manner arise the first and second frontal fissures, the second temporal, fissura collateralis, etc., and their bordering convolutions. Thus, in the frontal lobe, Bischoff points out two upper frontal convolutions, and a third or inferior arching around the ascending branch of the fossa Sylvii. In the frontal lobe an anterior and a posterior central winding arching around the upper and lower extremities of the fissura centralis. Posterior to these, at the upper border of the hemisphere and extending over on to the mesial surface, a superior internal parietal group of convolutions (obere innere Scheitelgruppe) corresponding to the lobulus parietalis superior and præcuneus. Besides these, Bischoff points out five so-called arched parietal convolutions. A first or anterior parietal arched convolution (erste oder vordere Scheitelbogenwindung) surrounding the upper extremity of the horizontal branch of the fossa Sylvii. A second or middle (zweite oder mittlere Scheitelbogenwindung) surrounding the upper extremity of the superior temporal fissure. Posterior to these a third smaller arched convolution which curves around the upper end of the fissura temporalis media, the dritte Scheitelbogenwindung. He admits, indeed, that the arrangement of these arched convolutions is very variable and manifold, and therefore the

appearance of these arches is not always easily discerned. He also distinguishes a superior internal (obere innere oder vierte Scheitelbogenwindung) surrounding the upper extremity of the fissura perpendicularis interna. This corresponds with the pli de passage supérieur externe, Gratiolet, gyrus occipitalis primus, Ecker; oberer Zug der hintern Centralwindung (in part), Huschke; erste obere Hinterlappenwindung, Wagner, first external annectent gyrus, Huxley; first bridging annectent or connecting gyrus, Turner. An inferior internal (untere innere oder fünfte, Scheitelbogenwindung) surrounding the lower extremity of the fissura perpendicularis interna. This corresponds with the pli de passage interne inférieur of Gratiolet; gyrus cunei of Ecker. The existence of a pli de passage interne supérieur is not admitted by Bischoff, who considers that this convolution is homologous with the pli de passage supérieur externe. Ecker dissents from this view of the case, and the speaker had attempted to show in a previous communication (Plis de passage in the Primates, Proc Acad. Nat. Sciences, Philadelphia, 1878) that at least in certain cases Bischoff is correct. In the occipital lobe Bischoff distinguishes three convolution groups, an outer upper, the so-called cunus, and two lower, an internal superior (lobulus lingualis), and an external inferior (lobulus fusiformis). In the temporal lobe Bischoff does not differ in his divisions from previous writers.

The observations referred to at the beginning of this communication in reference to the union of the central and Sylvian fissures is not in accordance with the views of Bischoff, at least in the absolute manner in which he proposes them; and that he considers the presence of these arching convolutions around the ends of the primary furrows as absolutely essential, is shown by his criticism of Turner's observation referred to above, and also of Dr. Rolleston's observations on the premier pli de passage. In seven human brains examined by Dr. Rolleston in reference to the development and character of this convolution, he found it in one case entirely wanting on one side. Bischoff regards this as an error, stating that this is a very typical and characteristic convolution, which, according to his view can never and will never be found wanting where deep and extensive anomalies in brain development have not taken place.

In conclusion, he could but repeat the opinion of Ecker, "what Bischoff says is also perfectly correct, that a large number of the convolutions of the cerebral hemisphere are arranged around the ends of the primary furrows in more or less simple or complicated arches; and it cannot be otherwise, for the ranges of mountains inclosing a valley must necessarily pass into each other where the valley ends, but no special explanation seems to be thereby disclosed."

DECEMBER 16.

The President, Dr. RUSCHENBERGER, in the chair.

Fifty-seven persons present.

DECEMBER 23.

The President, Dr. RUSCHENBERGER, in the chair.

Seventy-two persons present.

DECEMBER 30.

The President, Dr. RUSCHENBERGER, in the chair.

One hundred and ninety persons present.

The following reports were read and referred to the Publication Committee :—